

1 c) support arms extending from said base frame, on
2 the opposite side thereof from said means for attachment,
3 said arms extending in convergent manner to form said
4 three-dimensional [a] tooth-shaped lattice; and,
5 d) at least one screen formed over said lattice,
6 having a bottom support and a top perimeter adjacent and
7 attached to said frame.

8
9 **REMARKS**

10 The Examiner's reason for rejection, namely:

11 It would have been obvious to one having ordi-
12 nary skill in the art at the time the invention
13 was made to combine the teachings of CHEN, ELLIS
and REYNIERS, to arrive at Applicant's instant
claimed invention.

14 is extremely vague and is of little help in determining what parts
15 of each of the cited art is applicable to what part of Applicant's
16 claims. To enable Applicant's counsel to frame an adequate response,
17 it was necessary for counsel to analyze the references and determine
18 what parts thereof are applicable to corresponding parts of the
19 claims in issue.

20 CHEN is directed to a device for cleaning the gravel covering
21 the bottom of an aquarium. The device works by forcing the stirring
22 pipe (3) of a sucking head (1) into the gravel until the pipe is
23 buried therein and the filter holes (20) formed in filter disc (2)
24 are fast against the upper surface of the gravel (col 2/lines 31-33).
25 The sucking head and stirring pipe are then moved against and over
26 the upper surface of the gravel (col 2/lines 33-36). In addition,
27 a sucking ball (41) is alternately compressed and released to push
28 and pull water out from and into the sucking head to stir up debris

1 occluded in the gravel (col 1/lines 37-47).

2 Accordingly, CHEN teaches to force water up and down in the
3 gravel layer to suck debris up into a sucking head placed flat
4 against the gravel surface to somehow draw debris out of the layer
5 of gravel. CHEN does not allow gravel to enter the sucking head and
6 the only source of water to carry off the debris (possibly up the
7 tube although this is never described in the specification) is from
8 below the surface of the gravel.

9 ELLIS, JR. discloses a device for cleaning sand (col 2/line 50),
10 the sides of the aquarium (col 2, lines 60-66) and rocks (col 2/lines
11 67-71 and col 3/lines 1-3); there is no teaching to use the device
12 for cleaning gravel. A component ELLIS, JR. that could possibly be
13 used to clean gravel would be the rake for cleaning sand shown in
14 Figures 6 and 7 thereof. It is almost inconcievable for sand not
15 to be drawn up extension (37) through bores (15) and (3) into
16 container (23) to clog filter medium (27). That notwithstanding,
17 water is not drawn through teeth (35) so that only the debris stirred
18 up in the sand is drawn off from the bottom of the aquarium. There
19 are no inlets in the device to allow aquarium water to be drawn off
20 except upward through the sand.

21 REYNIERS' invention is the use of a rigid, hollow tube to draw
22 gravel from the bottom of the aquarium tank up into the tube to allow
23 the gravel particles to churn and rid themselves of debris so that
24 the cleaned gravel can drop back to the floor of the aquarium tank.
25 The open end of the tube is pushed down into the gravel, to draw the
26 gravel upward in the tube, so that the only water for upward flow
27 in the tube comes from below the layer of gravel.

1 Applicant's invention came about after many complaints were
2 received about existing aquarium cleaning devices. The Reynier's
3 patent has been criticized because it requires gravel to be drawn
4 up into the tube to allow it to churn in the upwardly moving water
5 stream and dislodge the debris occluded thereto and to then drop down
6 to the gravel floor so that the operator can then move on to another
7 spot on the gravel floor. Drawing gravel up into the tube causes
8 bare spots on the aquarium floor that are difficult to smooth over.
9 Dropping the gravel back to the floor of the tank creates piles of
10 gravel that must be smoothed over. Smoothing the gravel stirs up
11 more debris resulting in a dirty water condition in the tank. In
12 addition, the act of drawing gravel up into the tube also carries
13 with it small plants planted in the gravel and tropical fish swimming
14 in the tank, neither of which is a desired result of the cleaning
15 process and which causes the death of many small fish and the
16 mutilation of many plants.

17 The instant invention cures these problems by totally preventing
18 gravel from entering the tube. In addition, the lattices are
19 constructed such that they are taller than the depth of gravel in
20 the aquarium so that a portion (located at the top) of the lattices
21 remain above the gravel thus allowing a continuous flow of aquarium
22 water into the tube to maintain an upward flow of water in the tube.
23 This continuous flow of water carries the debris, entering the tube
24 through the small apertures in the lattices, upward and out of the
25 aquarium without entraining any gravel, plants or fish in the debris
26 and without allowing any of the gravel, plants and fish into the
27 tube. This has a distinct calming effect on the fish and eliminates
28 the need to replace mutilated plants rakes up, churned up, or drawn

1 up into the tube by the rakes of ELLIS, JR., or the sucking head of
2 CHEN, or the open end of REYNIERS' gravel tube. This is a signifi-
3 cant benefit of Applicant's invention.

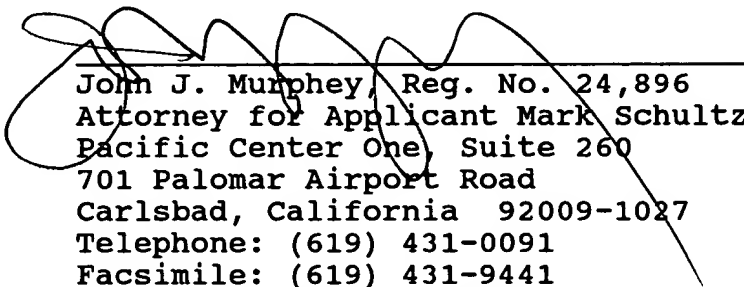
4 Claim 1 has been amended to clearly state that it is useful on
5 a gravel-covered floor to separate it from the teachings of ELLIS,
6 JR. Further, Claim 1 has been amended to call for a continuous flow
7 of water from the tank, to separate it from the pulsating flow of
8 water into and out of the tank of CHEN. Finally, to Claim 1 has been
9 added the limitation that the grille includes a plurality of tooth-
10 shaped lattices having a height greater than the depth of the floor-
11 covering gravel so as to always present a portion of said apertured
12 grille above the surface of the gravel and in contact with the water
13 to allow a continuous flow of water into the tube to sweep the debris
14 out of the tank. This latter limitation separates the claim from
15 REYNIERS, which has no teeth; from CHEN that is useful only when
16 fully submerged in the gravel; and, from ELLIS, JR. that is useful
17 only with sand.

18 Claim 34 has been amended similarly, to separate Applicant's
19 invention from REYNIERS; ELLIS, JR.; and, CHEN. In addition,
20 limitations have been added to require that the lattices be tooth-
21 shaped and three-dimensional, as well as having a height greater than
22 the depth of the floor-covering, so as to always present a portion
23 of said apertured grille above the gravel to accept a flow of water
24 into the tube. Claim 41 has been amended to bring it into agreement
25 with Claim 34 from which it depends.

26 Applicant's counsel has addressed all issues raised by the
27 Examiner in this second office action. If any issues have not been
28 adequately addressed it was purely unintentional and the Examiner

1 is invited to telephone counsel. The application now appears to be
2 in condition for passage to allowance and such action is earnestly
3 solicited.

4 Respectfully submitted,

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